

1.0 EVALUATING SITES

1.1 INTRODUCTION

Technological sites come in various forms such as bridges, factories, dams, skyscrapers, or aqueducts. They can be situated in vastly different environments such as densely populated cities, small towns, and rural areas. Sites differ in size and in complexity: from a small machine shop to a large industrial plant. In addition, sites may be in ruins, intact, and/or in use.

There is no set formula for a recording team to follow when documenting a particular site. Each industrial or structural type demands individualized attention. Each site has its own history--so each is unique. Yet despite all the variables, a team should adhere to a general *modus operandi*.

These are basic questions to ask and answer:

What was there? Identify all its important features, both man-made and natural.

Why was it there? Explain the purpose of the site and why it was chosen.

How did it work? If it is a manufactory, discuss relevant machinery and trace the industrial processes. If it is a civil engineering work such as a bridge or a dam, how did the design work to resist loads, stresses, strains, etc...?

What shaped its development? Relate the form of the structure to its function, economic considerations, and other identifiable influences.

Who did the work? Sites did not develop on their own. What important individuals designed, built, or paid for it? Who worked there or operated it?

How did the site change over time? Few historic industries and engineering works exist today in their original form. Separating several generations of changes will be an important challenge of any documentation team. Include changes both in form and function.

Inquiries should not be limited to just these broad questions. There are interesting peculiarities of each site that can be explored. As they apply, specific questions can be tailored to each unique site.

While considering these questions (and the means of answering them), you should be aware of the following:

1. Because time is limited, ask questions that seem most applicable and important. Try to develop an overall strategy or plan of attack. Establish a historical point of view and frame major questions within context.
2. Start with the site itself. What does it tell you? What questions does *it* raise? Also, seek out manuscript records, published materials, historical graphics, and knowledgeable local individuals who may have worked on or lived near the site.
3. If information in one area is skimpy, turn to another pertinent area where the information is more bountiful.
4. Answer questions by the best means available. Recognize and take advantage of the fact that written reports, drawings, and photographs all have their strengths and weaknesses.
5. Historians and engineers must always remember that each report focuses on a particular site. Projects are *site-specific*, and constitute specialized forms of **local** histories. The story of a given site should be written with background information of relevant regional or national trends and developments, while keeping the site itself in the foreground.

1.2 ANALYZING THE SITE

Industrial or engineering sites are located on property with physical boundaries. By examining the process of site selection, and by

studying environmental, social, and economic factors, you often come to a better understanding of the essential nature or basic requirements of the industry or technology you are studying. Analyze the sites in terms of:

Topography. Were any natural features a particular asset or liability?

Geology. This is of particular importance when assessing the work of a civil engineer.

Climate. Did hot summers, harsh winters, or humidity in any way affect design, construction, or operation?

Minerals, Building Materials, and Water Resources. How did the availability or lack of these items influence the development of the site?

Natural or Man-Made Barriers or Obstacles. Did they exist at the site? Did they affect the design or limit expansion?

Transportation Systems and Utilities. Did the site offer convenient ties to the outside world via rail, water, or road? Did it have access to adequate public utilities: energy, water, sewerage, *etc...*?

Land Values, Real Estate Prices. Did particularly high or low land acquisition costs affect the size and shape of the site?

Markets and Capital. What market did the site serve? Did the market's location affect the site's location? Where did the capital come from, and did that affect site location?

Labor. What influences were exerted by the local labor supply--by the number of laborers available, the skills they embodied, and labor costs?

Zoning Ordinances, Regulations, Building Codes, and Taxes. From an entrepreneur or developer's point of view, was the community hospitable towards his intentions? Did the community offer incentives for development?

Community and Business Services. Was the site amidst a well-developed community that offered a wide range of services? Or was it isolated, causing the developer to attend on his own such matters as workers' housing and social services?

1.3 ANALYZING STRUCTURES

A site may have only one structure on it, such as a lighthouse, bridge, or small grist mill. Or it may be a complex assemblage of structures, some of which are intact, ruins or foundation walls. When documenting a site, identify and assess each and every structure and make value judgements as to what structures are of greatest interest and significance. The terms interest and significance are hard to define. To get a handle on the relative significance or important features of individual industrial structures, ask these questions:

- What is it?
- What was its function?
- When was it built (and maybe come down)?
- Who designed, engineered or built it?
- How much did it cost?
- What materials was it made of, and why?
- How was it made?
- What form did it take?
- How did form relate to function?
- What machinery and systems did it house?
- How many people worked on it or in it?
- What products were made, and what processes were carried out?
- How long did it remain in service?

- . It is rare or unusual?
- . Is it typical of an important type?
- . Is it associated with significant individuals, inventions, or events?
- . How much did the individual structure contribute economically or technologically to the site as a whole?

On the basis of such questions, you may conclude:

1. that a particular structure is relatively insignificant in terms of both form and function, and therefore merits minimal study and documentation;
2. that the structure's function, rather than its form, is of primary interest (i.e., the operations or work sheltered in a structure are more important than the structure itself);
3. that the structure itself (i.e., its form and building technology) is of primary interest, or
4. that the structure's form and function are of interest and should be documented in detail.

By making this type of assessment, historians, engineers, architects, illustrators, and photographers will be aided in their work.

1.4 ANALYZING THE WORK PLACE.

If a site is of interest because of its function, then document how the function was carried out--how the work was organized and executed. Look to see how the workers, machines, tools, and materials worked together to perform a task. Some questions that should be asked are:

- . What machines and tools are or were present in the structure?
- . Who manufactured the equipment and when?

- . How was the machinery organized in the structure, and why?
- . How was the machinery driven; by water, steam, human power, diesel, gas engine, compressed air, electricity?
- . How was power transmitted throughout the structure?
- . What were the products? Did the workplace mass-produce a specialty, or did it produce or repair myriad things?
- . What materials were used, and how were they processed or shaped?
- . What working conditions existed? What were the conditions of light, heat, ventilation, fire prevention, and air and noise pollution?
- . What was the source of initiative and direction? Resident owner, absentee owner, works manager, engineer, designer, foreman, "tradition", or other?
- . What was the size of the labor force?
- . What different occupations or job levels existed?
- . Where did the labor force come from, and was it in any way distinctive in terms of sexual, ethnic, or racial make-up?
- . Which jobs required the most skill, were the highest paying, were the easiest or the most dangerous?
- . Were children employed?
- . Was the labor organized?
- . Was the labor exploited?
- . Was the venture profitable? How so?

The site may not be just one workplace; a complex site may be an assemblage of workplaces. Each important structure on a site should be dealt with individually, yet when dealing with such an assemblage it is important to tie individual pieces together as a whole. Conceptualize an assemblage as a system, and explore the interrelationships or interdependencies that may have existed between the various parts.

1.5 ANALYZING TECHNOLOGICAL CHANGES

The site may not be of recent vintage, it will most likely show evidence of time and perhaps major changes. Civil engineering works--such as dams and bridges--often have survived into the present with only small changes, such as some wear and tear. But manufactories have seldom escaped alterations. They may have absorbed new technologies, acquired new machinery and equipment, employed a different type of labor force, and constantly altered or updated products.

Because of the short duration of a project, it is difficult to document the effects of time and technological change. Begin by recognizing that not all time periods are equal in significance. In most cases the three blocks of time that are most relevant and merit the most intensive study are the development period, the "high-water mark" period, and the demise period.

In evaluating the life of a site, look for periods of interesting activity, check for:

- Changes in ownership, management, or internal organization.
- The effects of changes in the national economy--recessions, depressions, etc.
- Changes in the market place or in the demand for the products or services provided by the site.
- The effect of the growth or demise of competitors.

- Fires, floods, explosions, strikes, or other major disruptions at the site.

In assessing the technological change that did (or did not) occur at the site, try to discover:

- Who instigated the changes, and why? (The reverse of this is: Who resisted the technological change, and why?)
- Where did the idea for technological change come from? Was new technology developed internally, or on the outside?
- What new machinery or processes did the changes entail?
- What were the effects of these changes on the organization of work, on the labor force, on productivity, and on profitability?
- Was the technology at the site consistently state-of-the-art? Did the site lead or lag in terms of adopting new technologies?

1.6 ANALYZING IMPACT

Although it is important to examine a site as a microcosm, assess it in terms of what impact it may have had upon a larger community. This is true for both manufactories and civil engineering works.

- What effect did the site have on its local community? Was it a major or minor contributor to the community's social or economic life?
- Did the goods or services provided by the site have any regional or national significance?
- Were any new products or technologies developed at the site subsequently adopted by others in larger numbers?
- What effect did the site's operation have on the environment and on the "quality of life"?

1.7 CONCLUSION

These areas of inquiry do not constitute a formula; but they do constitute a long list of possible questions to ask. From this list, generate a research strategy custom-tailored to the history of your particular site taking into consideration the time and research materials available.